



SCALABILITY

The NIPP project is a scalable initiative, however, where behavioural issues play a role in determining the outcome of malnutrition (both acute and chronic), there is no simple, quick fix solution. Behaviour change is complicated and difficult to effect. Thus, such a project will not be able to reach the same beneficiary numbers as a supplementary feeding program (SFP). But **what the NIPP project does do, is tackle the causes and not merely the consequences.** It is GOAL's belief, that in many settings, an approach tackling the underlying causes of MN is more appropriate.

In Zimbabwe, GOAL's DfID GPF funded project is running over 3 years 2013 – 2016. Incrementally, up to 72 circles, each running for 12 weeks, will complete 432 cycles in different villages across 3 districts. With an average of between 10-15 male and 10-15 female participants per cycle, direct beneficiaries will amount to 10,800 men and women plus a further ~10,800 direct beneficiaries (usually children) from the same HH's, where the average HH size in Zimbabwe is 4.3. Thus direct beneficiaries would amount to no less than 21,000 individuals.

COST

As an illustration of the cost/beneficiary, the DfID GPF budget is £1.4 million. Thus a conservative calculation of the cost per beneficiary (as we have only considered the core direct beneficiaries) would amount to ~£67 / person.

RESULTS TO DATE

In Sudan, NIPP planning and implementation has been underway in Darfur, Kutum, since December 2012. Data collection around a number of indicators has been collected at baseline and upon graduation for 9 circles with 124 female participants (from female circles). Below are the anthropometric results:

OVERALL RESULTS FROM FEMALE CIRCLES:

- On admission 87 of 124 (70%) children had MUAC <12.5cm (the rest will likely have been OTP discharges or CI, thus 'at risk', but with >12.5cm MUAC)
- On discharge only 8 (6%) of the 124 children had MUAC <12.5cm [of the 124, 121 (97.6%) had an overall increase in MUAC, with 116 of these achieving a MUAC of >12.5cm. Only 3 (2.4%) decreased MUAC, possibly due to underlying, unaddressed clinical conditions]
- This indicates, of families with children admitted with MAM based on a MUAC of <12.5cm, there has been a 91% increase in nutritional status, graduating with MUAC >12.5cm (difference/total*100 = 79/87*100)

However, of the 9 circles, 5 were in areas where SFPs were also run, thus we cannot necessarily attribute percentage change in nutritional status solely to the NIPP project. Therefore we disaggregated the results and found the following:

IN AREAS WHERE SFP AND NIPP CIRCLES HAVE BEEN RUNNING CONCURRENTLY (ALTHOUGH WE ARE NOT ABLE TO CONFIRM IF NIPP BENEFICIARIES WERE RECEIVING FOOD AID), THE RESULTS ARE AS FOLLOWS:

- On admission 51 (71%) of 72 children had MUAC <12.5cm
- On discharge only 2 (2.7%) of the 72 children had MUAC <12.5cm [of the 72 children, 72 (100%) had an overall increase in MUAC, with 70 (97.2%) of these achieving a MUAC of >12.5cm.
- This indicates, of families with children admitted with MAM, a 96% increase in nutritional status has been effected, graduating with MAUC >12.5cm (difference/total*100 = 49/51*100)

IN AREAS THAT WE KNOW NO SFP WAS IMPLEMENTED (THUS IMPROVED NUTRITIONAL STATUS IS NOT LINKED TO SUPPLEMENTARY FOOD AID) THE RESULTS ARE AS FOLLOWS:

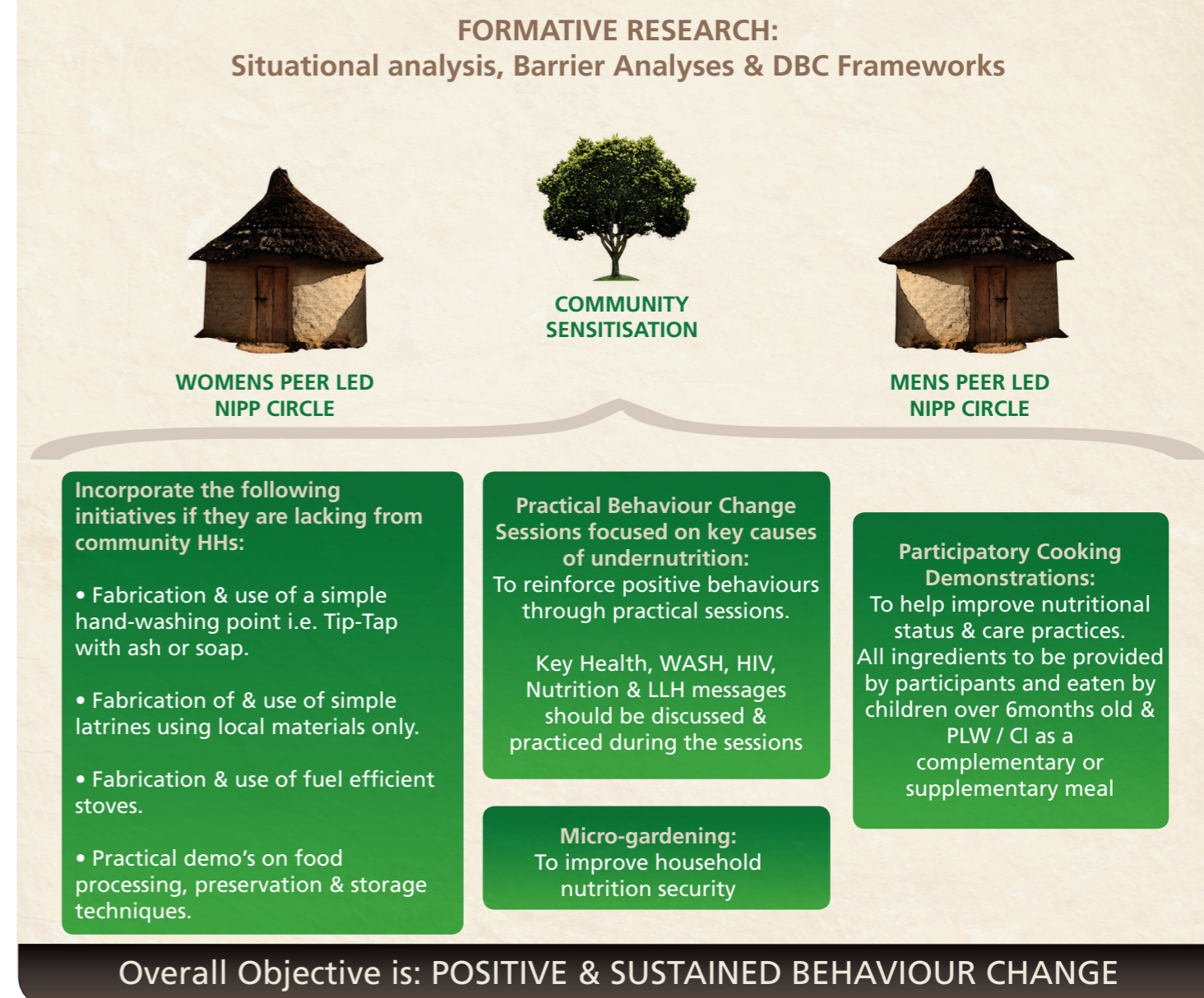
- On admission 36 (69%) of 52 children had MUAC <12.5cm
- On discharge only 6 (11.5%) of the 52 children had MUAC <12.5cm [of the 52 children, 50 (96%) had an overall increase in MUAC, with 46 (88.5%) of these achieving a MUAC of >12.5cm. Only 2 (3.8%) decreased MUAC, possibly due to underlying, unaddressed clinical conditions
- This indicates, of families with children admitted with MAM, we have effected an 83% increase in nutritional status, graduating with MAUC >12.5cm (difference/total*100 = 30/36*100)

Thus, rather surprisingly the results were not wildly different; an 83% increase in children U5's nutritional status graduation with MUAC >12.5cm in non-SFP supported areas, compared to a 96% in SFP supported areas. We are not however in a position to draw conclusions about the differences in results, as variables including who did and did not receive an SFP ration are unaccounted for. However, initial findings re. achieving short-term and thus longer-term impacts are promising.



- Ability to **reduce rates of mild or moderate MN** in 'at risk' groups in the short term
- Potential to **reduce future episodes of acute MN** and thus
- Potential to **reduce the incidence of chronic MN** (with all the inherent problems that are associated with stunting)
- Potential to **reduce future incidence of low birth weight (LBW) babies**, thus helping to break the inter-generational cycle of MN

DIAGRAM OF KEY COMPONENTS TO HELP ILLUSTRATE THE INITIATIVE AS A WHOLE



Incorporate the following initiatives if they are lacking from community HHs:

- Fabrication & use of a simple hand-washing point i.e. Tip-Tap with ash or soap.
- Fabrication of & use of simple latrines using local materials only.
- Fabrication & use of fuel efficient stoves.
- Practical demo's on food processing, preservation & storage techniques.

Practical Behaviour Change Sessions focused on key causes of undernutrition:
To reinforce positive behaviours through practical sessions.

Key Health, WASH, HIV, Nutrition & LLH messages should be discussed & practiced during the sessions

Micro-gardening:
To improve household nutrition security

Participatory Cooking Demonstrations:
To help improve nutritional status & care practices. All ingredients to be provided by participants and eaten by children over 6months old & PLW / CI as a complementary or supplementary meal

KEY PRINCIPLES INCLUDE:

- **Community based approach** – aiming to build village capacity to address undernutrition at home using local resources / knowledge.
- **Multi-sectoral approach** – addressing malnutrition comprehensively requires a holistic, multi-sectoral approach.
- **Formative research & designing for behaviour change (DBC)** – the key to positive practice is evidence-based identification and subsequently the addressing of barriers that prevent the use of positive behaviours.
- **Positive deviance** – NIPP circles are based on identifying households (HH) who are healthy despite facing the same challenges as other HHs in the community who are not thriving. People from these HHs are used as role-model volunteers who use a peer-led approach to teach positive practices.

- **Reinforce positive behaviours** – participatory practical sessions, positive reinforcement and repetition are used to habituate participants to the use of positive practices.
- **Addressing key gatekeepers to change** – men are often gatekeepers to change, in that they play a part in decision-making & influencing behaviours in the HH. By addressing men in addition to women i.e. mother-in-laws, we have the best chance of successful behaviour change.
- **Long-term follow up** – often project follow-ups finish upon beneficiary graduation. NIPP circles focus on following-up beneficiaries 2, 6 and 12 months post-graduation, to determine the sustainability of positive behaviour change over time.
- **Sustainability** – The goal is for MoH, local community based organisations (CBO) or national NGOs to support NIPP circles going forward. So that this might become a reality, expenses have been minimised as far as possible, thus project costs are low.



GOAL Nutrition Impact and Positive Practice Circles



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As per the 2008 Lancet Series on Maternal and Child Undernutrition, the risks related to undernutrition and suboptimum breastfeeding practices on mortality and disease are huge. Combined, it's estimated that annually for children <5yrs, stunting (~178 million), severe wasting (~55 million) and intrauterine growth restriction, are responsible for ~3.3 million deaths and 21% of disability-adjusted life-years (DALYs). Suboptimal breastfeeding was estimated to be responsible for 1.4million child deaths and 10% OF DALYs U5s. MN contributes to 35% of morbidities in children U5 and 11% of illnesses suffered globally (adults & children).

As is evidenced in table 1, stunting, wasting and LBW babies are the largest contributors to child mortality, collectively responsible for ~35% of all U5 deaths globally/annum. Over the last decade, GOALS nutrition department have invested heavily in the active promotion and support of governments taking responsibility for the curative care of acute malnutrition (wasting) through the integrated management of CMAM. However, due to persistently high malnutrition rates and thus beneficiary caseloads placing a great burden on the health system, it was decided in 2010 that whilst continuing to support Ministry-led management of acute malnutrition and other prevention focused government supported initiatives i.e. micronutrient supplementation, there was a compelling case for the implementation of a new style of intervention. GOAL recognised the need to build nutritional resilience in contexts of permanent vulnerability, focussing on improving the nutritional status of those already malnourished, but also on the prevention of malnutrition itself. Thus an approach was conceived; tackling the cyclical deterioration of 'at risk' groups and to help reduce the prevalence of LBW babies. To be successful, it needed to include a holistic, multi-sectoral approach to addressing the key underlying causes of malnutrition. This led to the development and implementation of GOALS Nutrition Impact and Positive Practice (NIPP) circle project. It is designed both to rehabilitate cases of mild or moderate malnutrition, but also to elicit positive and sustainable behaviour change in communities where solutions can be accessed by all.

It is understood that all too often, education focussed approaches have a limited impact, in terms of translating knowledge into practice, thus GOAL have adopted a global nutrition approach of supporting communities to help themselves, using locally available resources, through a sustainable, low-cost approach. Although this may seem a rather simplistic method to tackling such a huge problem, significant improvements can be made, through achievable changes in behaviour. For example, it is estimated that wide-scale adoption of exclusive breastfeeding through six months of age, could prevent 13% of child deaths globally.

Table 1: The disease burden and deaths associated with undernutrition			
	Deaths annually U5	% of deaths in children U5 yrs	% of DALY's in children U5 yrs
Stunting	1 491 188	14.5%	12.6%
Wasting	1 509 236	14.6%	14.8%
Low birth weight	337 047	3.3%	3.1%
Vitamin A deficiency	667 771	6.5%	5.3%
Zinc deficiency	453 207	4.4%	3.8%
Iron deficiency	20 854	0.2%	0.5%
Iodine deficiency	3 619	0.03%	0.6%

Source: The Lancet's Series (2008). 'Global deaths and disease burden measured in disability-adjusted life-years (DALYs) in children under 5 years of age attributed to nutritional status measures in 2004'.

NIPP Circles are used in community contexts where under-nutrition (in any sect of the demographic) is common and where a lack of diet diversity and inappropriate social and care practices have been identified as contributory factors in causing malnutrition. The NIPP Circle model uses survey and assessment data to help identify specific causes of malnutrition within the target community, then uses barrier analyses & designing for behaviour change (DBC) frameworks to help identify barriers and motivators to identified problems and thus design evidence based activities for inclusion. Using evidence based information helps tailor the project to improve the nutrition security of households either affected by malnutrition or at risk of suffering from malnutrition. The circles use participatory nutrition & health counselling and diet diversity promotion to help knowledge and skills sharing of both men and women, using locally available resources.



NIPP circle in Kutum, Darfur, Sudan

The sessions focus on 3 main components:

- **BEHAVIOUR CHANGE COMMUNICATION AND COUNSELLING** - for improved awareness and practice, including themes from nutrition as well as core health, WASH, LLH & HIV messages i.e. active promotion of key IYCF practices; practical demonstrations on food processing, preservation & storage techniques; lessons on construction and use of high energy stoves, locally fabricated latrines, hand-washing points such as tippy-taps; appropriate nutrition, micronutrient supplementation & active health seeking of PLW; promotion of VCT or adherence to ARVs etc.
- **MICRO-GARDENING** - for improved food/nutrition security
- **COOKING DEMONSTRATIONS** - for improved feeding and care practices. The high energy foods cooked during the demonstration are then eaten by malnourished children/PLW and/or chronically ill, acting as a supplementary meal.

To ensure sustainability, no non-sustainable inputs are provided and NIPP circles are led by trained volunteers (male & female) from positive deviant households, who are positive role models, and have a healthy family despite facing the same challenges as the rest of the community. Their knowledge on successful behaviours and practices are honed and transferred to households with under-nourished children or other 'at risk' groups. The peer-led approach employs the use of discussion, practical exercises and positive reinforcement methods to help families adopt sustainable, positive behaviours. To maximise compliance and impact, sessions are designed to be fun, interactive and thus engaging. The concept hinges around there being easy and viable solutions already existing in many community settings.



Participants' micro garden

Women are often not the sole decision makers surrounding issues of family food, household sanitation and hygiene, child care and family feeding practices. Men, elders, mother-in-laws, traditional healers, community leaders and religious heads, all play a role in determining what are deemed acceptable practices within a community and in a household. Consequently, NIPP circles not only address women, but also actively engage others who play influential roles in family life so that they too understand the importance of the project and can support the women to make the necessary positive changes.

Each "macro circle" is broken down into three separate circles, parallel male and female circles, tailored to the respective representatives of targeted households, with a separate circle for key community figures. Female volunteer circle leaders are selected to conduct sessions with primary carers and influential female elders, whilst male volunteers are selected to conduct the sessions targeting both male heads of households and sessions attended by key community figures (if appropriate). By maximising transparency within a community, we try to ensure understanding and acceptance of new behaviours and/or changes to household routines, and thus help to maximize results of sustained positive behaviour change.

Although the Circles are adaptable according to local contexts, female circles usually run daily (Mon-Fri) for 2 hours, from 10 to 12 weeks. This timeframe ensures all the key messages and practical components can be covered. Male circles run for the same number of weeks, but may include shorter sessions, as not all the behaviours have to be practiced and reinforced to the same degree. Community sessions usually run from 3-7 days for 2-3hrs. As the NIPPs are designed to elicit not only positive behaviour change, but 'sustained' change, GOALS M&E framework uses a longitudinal design with repeated measures analysis, to assess outcomes and impact at graduation, 2months after graduation, 6months after and 12 months after. In this way, we are able to assess both change and it's sustainability over a period of time.



Locally fabricated hand-washing facility

GOAL began piloting its Nutrition Impact and Positive Practice (NIPP) circle project in South Sudan towards the end of 2011, and in Sudan in late 2012. With initial results already looking extremely promising, the project has been nominated for a prestigious award from the UN's Common Humanitarian Fund in Sudan and has also been recognised by UNOCHA as an innovation project to tackle malnutrition in South Sudan.



Circle Participants eating high energy foods



Abuk Dor Mayar Cyier with her mother on admission

GOAL has organised 12 circles across three locations in South Sudan, 23 circles across three locations in Sudan and are in the process of continuing to expand this innovation project through a three-year DFID Global Poverty Action Fund grant in Zimbabwe across 3 districts. GOAL is currently seeking funding to launch similar projects in Niger and in Uganda.

Initial results from the Sudan pilot are very positive. So far, the circles have effected an 83% increase in nutritional status of children graduating with a MUAC >125mm and an average of 92.5% of women participants & 80% of men have passed a post-circle assessment. One of many practical examples of the success of GOALS NIPP circles in South Sudan is 23-month-old Abuk Dor Mayar Cyier, who was suffering from malnutrition when her mother, Awong Achok Kiir, joined her local circle. Amongst the many new skills that Atwong learnt was micro-gardening. She relocated her garden closer to a water source, enlarged the area she was planting, and was subsequently able to provide a wider range of nutritious food for her family. Using locally-available materials, Atwong also built a household latrine and installed a hand-washing point at her home. Just two months after her mother joined the GOAL NIPP circle, Abuk has become a happy and healthy baby.



Abuk Dor Mayar Cyier upon discharge